WHAT IS CLAIMED IS:

1. A method of manufacturing a semiconductor device, said method comprising the steps of:

crystallizing an amorphous semiconductor film by irradiating with a laser light to form a crystalline semiconductor film having a warp;

heating the crystalline semiconductor film to lessen the warp;

etching the crystalline semiconductor film after the heating step to form a crystalline semiconductor island.

2. A method of manufacturing a semiconductor device, said method comprising the steps of:

crystallizing an amorphous semiconductor film by irradiating with a laser light to form a crystalline semiconductor film having a warp;

etching the crystalline semiconductor film to form a crystalline semiconductor island;

heating the crystalline semiconductor island to lessen the warp.

3. A method of manufacturing a semiconductor device, said method comprising the steps of:

crystallizing an amorphous semiconductor film by irradiating with a laser light to form a crystalline semiconductor film having a warp;

heating the crystalline semiconductor film at a temperature in a range of 500°C or higher to lessen the warp.

4. A method according to claim 1,

wherein the crystalline semiconductor film is heated at a temperature in a range of 500°C or higher.

5. A method according to claim 2,

wherein the crystalline semiconductor island is heated at a temperature in a range of 500°C or higher.

6. A method of manufacturing a semiconductor device, said method comprising the steps of:

adding a metal element to an amorphous semiconductor film;

first heating the amorphous semiconductor film to form a first crystalline semiconductor film;

irradiating the first crystalline semiconductor film with a laser light to form a second crystalline semiconductor film having a warp;

second heating the second crystalline semiconductor film at a higher temperature than the first heating step to lessen the warp.

7. A method of manufacturing a semiconductor device, said method comprising the steps of:

adding a metal element to an amorphous semiconductor film;

first heating the amorphous semiconductor film to form a first crystalline semiconductor film;

irradiating the first crystalline semiconductor film with a laser light to form a second crystalline semiconductor film having a warp;

second heating the second crystalline semiconductor film at a higher temperature than the first heating step to lessen the warp;

etching the second crystalline semiconductor film after the second heating step to form a crystalline semiconductor island.

8. A method of manufacturing a semiconductor device, said method comprising the steps of:

adding a metal element to an amorphous semiconductor film;

first heating the amorphous semiconductor film to form a first crystalline semiconductor film;

irradiating the first crystalline semiconductor film with a laser light to form a second crystalline semiconductor film having a warp;

etching the second crystalline semiconductor film to form a crystalline semiconductor island;

second heating the crystalline semiconductor island at a higher temperature than the first heating step to lessen the warp.

9. A method according to claim 1,

wherein the laser light is one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO_4 laser, a pulse oscillation type $YAlO_3$ laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO_4 laser, a continuous emission type $YAlO_3$ laser, and a continuous emission type YLF laser.

10. A method according to claim 1,

wherein the laser light has at least one selected from the group consisting of a rectangular shape and a linear shape on an irradiation plane.

11. A method according to claim 1,

wherein an annealing furnace is used in the heating step.

12. A method according to claim 1,

wherein a lamp light is radiated in the heating step.

13. A method according to claim 1,

wherein the crystalline semiconductor film is heated for 1-30 minutes in the heating step.

14. A method according to claim 12,

wherein the lamp light is radiated from at least one selected from the group consisting of an upper side and a lower side of a substrate.

15. A method according to claim 12,

wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.

16. A method according to claim 12,

wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

17. A method according to claim 6,

wherein an annealing furnace is used in the second heating step.

18. A method according to claim 6,

wherein a lamp light is radiated in the second heating step.

19. A method according to claim 6,

wherein the crystalline semiconductor film is heated for 1-30 minutes in the second heating step.

20. A method according to claim 18,

wherein the lamp light is radiated from at least one selected from the group consisting of an upper side and a lower side of a substrate.

21. A method according to claim 18,

wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.

22. A method according to claim 18,

wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

23. A method according to claim 1,

wherein the amorphous semiconductor film is formed through at least one selected from the group consisting of a sputtering method and an LPCVD method.

24. A method according to claim 1,

wherein the amorphous semiconductor film is formed through a plasma CVD method at a temperature in a range of 400°C or higher.

25. A method according to claim 6,

wherein the metal element comprises at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Sn and Sb.

26. A method according to claim 1,

wherein the semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a front type projector, a rear type projector, a mobile telephone, a mobile book, and a display.

27. A method according to claim 2,

wherein the laser light is one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO_4 laser, a pulse oscillation type $YAlO_3$ laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO_4 laser, a continuous emission type $YAlO_3$ laser, and a continuous emission type YLF laser.

28. A method according to claim 2,

wherein the laser light has at least one selected from the group consisting of a rectangular shape and a linear shape on an irradiation plane.

29. A method according to claim 2,

wherein an annealing furnace is used in the heating step.

30. A method according to claim 2,

wherein a lamp light is radiated in the heating step.

31. A method according to claim 2,

wherein the crystalline semiconductor island is heated for 1-30 minutes in the heating step.

32. A method according to claim 30,

wherein the lamp light is radiated from at least one selected from the group consisting of an upper side and a lower side of a substrate.

33. A method according to claim 30,

wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.

34. A method according to claim 30,

wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

35. A method according to claim 2,

wherein the amorphous semiconductor film is formed through at least one selected from the group consisting of a sputtering method and an LPCVD method.

36. A method according to claim 2,

wherein the amorphous semiconductor film is formed through a plasma CVD method at a temperature in a range of 400°C or higher.

37. A method according to claim 2,

wherein the semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a front type projector, a rear type projector, a mobile telephone, a mobile book, and a display.

38. A method according to claim 3,

wherein the laser light is one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO_4 laser, a pulse oscillation type $YAlO_3$ laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO_4 laser, a continuous emission type $YAlO_3$ laser, and a continuous emission type YLF laser.

39. A method according to claim 3,

wherein the laser light has at least one selected from the group consisting of a rectangular shape and a linear shape on an irradiation plane.

40. A method according to claim 3,

wherein an annealing furnace is used in the heating step.

41. A method according to claim 3,

wherein a lamp light is radiated in the heating step.

42. A method according to claim 3,

wherein the crystalline semiconductor film is heated for 1-30 minutes in the heating step.

43. A method according to claim 41,

wherein the lamp light is radiated from at least one selected from the group consisting of an upper side and a lower side of a substrate.

44. A method according to claim 41,

wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.

45. A method according to claim 41,

wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

46. A method according to claim 3,

wherein the amorphous semiconductor film is formed through at least one selected from the group consisting of a sputtering method and an LPCVD method.

47. A method according to claim 3,

wherein the amorphous semiconductor film is formed through a plasma

CVD method at a temperature in a range of 400°C or higher.

48. A method according to claim 3,

wherein the semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a front type projector, a rear type projector, a mobile telephone, a mobile book, and a display.

49. A method according to claim 6,

wherein the laser light is one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO_4 laser, a pulse oscillation type $YAlO_3$ laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO_4 laser, a continuous emission type $YAlO_3$ laser, and a continuous emission type YLF laser.

50. A method according to claim 6,

wherein the laser light has at least one selected from the group consisting of a rectangular shape and a linear shape on an irradiation plane.

51. A method according to claim 6,

wherein the amorphous semiconductor film is formed through at least one selected from the group consisting of a sputtering method and an LPCVD method.

52. A method according to claim 6,

wherein the amorphous semiconductor film is formed through a plasma CVD method at a temperature in a range of 400°C or higher.

53. A method according to claim 6,

wherein the semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a front type projector, a rear type projector, a mobile telephone, a mobile book, and a display.

54. A method according to claim 7,

wherein the laser light is one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO_4 laser, a pulse oscillation type $YAlO_3$ laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO_4 laser, a continuous emission type $YAlO_3$ laser, and a continuous emission type YLF laser.

55. A method according to claim 7,

wherein the laser light has at least one selected from the group consisting of a rectangular shape and a linear shape on an irradiation plane.

56. A method according to claim 7,

wherein an annealing furnace is used in the second heating step.

57. A method according to claim 7,

wherein a lamp light is radiated in the second heating step.

58. A method according to claim 7,

wherein the crystalline semiconductor film is heated for 1-30 minutes in the second heating step.

59. A method according to claim 57,

wherein the lamp light is radiated from at least one selected from the group consisting of an upper side and a lower side of a substrate.

60. A method according to claim 57,

wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.

61. A method according to claim 57,

wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

62. A method according to claim 7,

wherein the amorphous semiconductor film is formed through at least one selected from the group consisting of a sputtering method and an LPCVD method.

63. A method according to claim 7,

wherein the amorphous semiconductor film is formed through a plasma CVD method at a temperature in a range of 400°C or higher.

64. A method according to claim 7,

wherein the metal element comprises at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Sn and Sb.

65. A method according to claim 7,

wherein the semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a front type projector, a rear type projector, a mobile telephone, a mobile book, and a display.

66. A method according to claim 8,

wherein the laser light is one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO_4 laser, a pulse oscillation type $YAlO_3$ laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO_4 laser, a continuous emission type $YAlO_3$ laser, and a continuous emission type YLF laser.

67. A method according to claim 8,

wherein the laser light has at least one selected from the group consisting of a rectangular shape and a linear shape on an irradiation plane.

68. A method according to claim 8,

wherein an annealing furnace is used in the second heating step.

69. A method according to claim 8,

wherein a lamp light is radiated in the second heating step.

70. A method according to claim 8,

wherein the crystalline semiconductor island is heated for 1-30 minutes in the second heating step.

71. A method according to claim 69,

wherein the lamp light is radiated from at least one selected from the group consisting of an upper side and a lower side of a substrate.

72. A method according to claim 69,

wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.

73. A method according to claim 69,

wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

74. A method according to claim 8,

wherein the amorphous semiconductor film is formed through at least one selected from the group consisting of a sputtering method and an LPCVD method.

75. A method according to claim 8,

wherein the amorphous semiconductor film is formed through a plasma

CVD method at a temperature in a range of 400°C or higher.

76. A method according to claim 8,

wherein the metal element comprises at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Sn and Sb.

77. A method according to claim 8,

wherein the semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a front type projector, a rear type projector, a mobile telephone, a mobile book, and a display.